

Martin Kay

PHYS 344

Project 2a

Graduate School Statement of Interest

Throughout one's life there always remain a number of constants. For me, that is physics. My interest first took hold once I began watching documentary-style television shows about our universe and all its wonders. As a young boy, maybe around thirteen, I had virtually no knowledge of physics or its complex mathematical framework. I could make sense of the simplified concepts, but whenever a mysterious equation was shown I did not know what to make of it. At that time, I saw physics as the all-encompassing science of everything at its most fundamental level. I was fascinated and wanted to spend my life learning as much physics as I could; soon, I began asking my parents to buy me books on different physics topics. Some were purely conceptual and some had basis in mathematics, but as I grew older I kept learning and accumulated a decent library.

Years later, I am now twenty and a physics student at Purdue. Much has changed but my love of physics and desire to continue learning is still the same. However, now I have a more filtered idea of what I want to do in my career. I am applying to this institution in hopes of being accepted into the biophysics program and earning a Ph.D.. It is my feeling that I can be of the greatest help to society in this field. In biophysics, I want to do research to help the scientific community better understand how the body works at the deepest level. Ideally, I will end my career as a professor at a university with my own research group; doing research in whatever area of biophysics I see as most worthy. I do not know where I might find myself in the middle of my career, but I want to always be doing research.

In my undergraduate years I did research in a group overseen by Yulia Pushkar. In the group, I worked most closely with two graduate students that had their own projects they mainly worked on. I was given different tasks which came down to lab work and data analysis using the programming language, MATLAB. One unique experience I had in my research group was an overnight trip to Argonne National Lab outside Chicago. At Argonne I was exposed to an environment that could never exist in a classroom and it opened my eyes to what the life of a physicist was like outside of university walls. I discovered another passion as an undergraduate as well, teaching. I held a part time job as an undergraduate teaching assistant for an introductory physics course that I loved. My job was to assist the graduate TA in answering the students' questions. This job prepared me to teach in graduate school and increased my enthusiasm for my career in general. With these thoughts in mind, I hope I am considered as a prospective graduate student in your institution.